VIRTUAL ANTENNA TECHNOLOGY (VAT) AND APPLICATIONS

ABSTRACT OF THE DISCLOSURE

Within an antenna array 120, the magnitude and phase of a relationship resulting from propagation delay between a sample taken at a first antenna 1 to a sample taken at a second antenna 2 at a different time is employed to derive a data value for a virtual antenna 3. Sub-patch antennas 203 perturbed in elevation are employed to expand the elevation range of acceptable gain. Multiple arrays each providing a separate radio frequency output are employed with digital beamform steering to a single point, together with low noise amplification at the feed point, to achieve sufficient gain with an acceptable total array size. A modular implementation with fiber transport is preferably used.